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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/857,155 | 05/31/2001 | Susumu Otsuki | 33632 | 9145 |

116 7590 01/05/2004

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EXAMINER

PATEL, NITIN

| | |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2673

DATE MAILED: 01/05/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/857,155

Applicant(s)

OTSUKI ET AL.

Examiner

Nitin Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 4,9 and 12 is/are rejected.
- 7) ☐ Claim(s) 5-8,10,11 and 13-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4,9,12 rejected under 35 U.S.C. 103(a) as being unpatentable over Hoyt et al., (U.S. Patent No. 5,959,863).

As per claims 4,9,12 Hoyt shows a five directional operating device characterized in that five diaphragms are proximately arranged in a shape of a cross pusher portion are disposed to the diaphragms and structure of a center pusher portion is different from a structure of pusher portion surrounding the center pusher portion (In fig.4A, 4C, 6A, 13). Hoyt does not specifically shows the limitation that a input key is having the above limitation but it would obvious to one of ordinary skill in the art, at the time of the invention was made to have this type of input key is also applicable in other data input application (such as keyboard key)(In Col.14 lines 45-50) would have been obvious choice to implement in a keyboard structure.

Allowable Subject Matter

3. Claims 1-3 are allowed.
4. The prior art fails to teach or suggest a five direction key operating device in which diaphragms respectively corresponding to five directions are proximately arranged in a shape of a cross which comprises pushers corresponding to the five

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direction on a key core face opposed to the diaphragms and in which a single key is enabled to perform key operations of the five directions and characterized in that each of diaphragm contacts which are disposed on a printed circuit board opposed to the diaphragms is structured to have a first contacts and at least one second contact surroundings the first contract at least one strip like contact portion which are elongated from each of the second contact to a side opposite to a side of the first contact is disposed in the second contact and the diaphragm contacts are arranged on the printed circuit board in a shape of a cross correspondingly with the five direction with tilting the strip like contact portions of the diaphragm contacts by about 45 degrees t vertical and horizontal directions as claimed in claim 1.

5. Claims 5-8,10-11,13-16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to teach or suggest a height of the center pusher portion from the diaphragm is different from a height of the surrounding pusher portion from the respective and a shape of the center pusher portion is different from a shape of the surrounding pusher portions and a cross sectional diameter of the center pusher is different from a cross sectional diameter of the surrounding pusher portions wherein the rib and boss stands from an arbitrary position of the key core face which comprises the pusher portions as claimed in claims 5-8,13,14,15,16.

The prior art fails to teach or suggest one of a width and thickness of the key skirt portion is changed and shape of the skirt portion is changed as claimed in claims 10,11.

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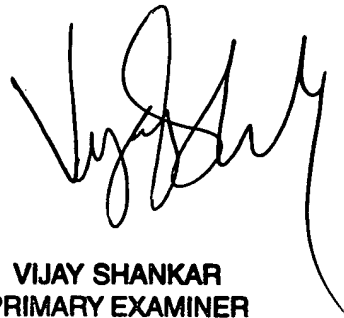
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Patel whose telephone number is 703-308-7024. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin H Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9618.

NP
December 24, 2003



VIJAY SHANKAR
PRIMARY EXAMINER